

# Lab 1 Task ( Python Basics )

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**Course : Numerical Computing**

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## Question 1 :

Write a program to find the value of sigma using following formula.

$X = [76, 84, 69, 92, 58, 89, 73, 97, 85, 77]$

$X\_bar = \text{sum of all } x \text{ values} / \text{number of values}$

$$\text{Sigma} = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

## Question 2 :

A list is given below, write the code of following statements.

$ar = [1, 2, 3, 4, \dots, 20]$

### a) Without using loops

- i) Print entire list
- ii) Print even numbers
- iii) Print last element
- iv) Print 3<sup>rd</sup> last element
- v) Print list in reverse
- vi) Print from 4<sup>th</sup> index to 10<sup>th</sup> index
- vii) Print starting 8 elements
- viii) Print last 4 elements

## Question 3 :

Define a function that will return solution of following equation.

$$Eq = \cos(x) - x^3$$